



The MC10 Control Unit

Installation Instructions

(Translation of the original installation instructions)

Foreword

Document revision history

Version	Date	Modification, change
(-)	06/10	First release
(a)	10/10	Technical specifications
(b)	02/11	Temperature monitoring
(c)	09/11	Mounting to the end product
(d)	07/12	Second edition
(e)	12/12	RoHS, Toggle

Disclaimer and exclusion of liability

DewertOkin is not responsible for damage resulting from:

- failure to observe these instructions,
- changes made to this product which have not been approved by DewertOkin, or
- the use of replacement parts which have not been approved or manufactured by DewertOkin.

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Creation of a complete operating instruction manual for the entire end product

These instructions are only intended to be used by the end-product manufacturer. They should not be given to the operator of the end product. The factual information contained within may be used as a basis when creating the end-product manual.

The warning and danger notices are best suited for use in the end product's manual. However it is not sufficient to simply follow these notices. You should also carry out an internal risk assessment for your end product. This can then be used as the basis for the safety notices in your manual.

Usage in medical products

The MC10 control unit is not a medical product. If used in a medical end product, you (the end manufacturer) are obliged to ensure compliance with EC directives and to ensure that other pertinent medical product regulations are maintained.

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1. General Information

1.1 About these installation instructions

In order to install the MC10 control unit successfully and safely in the end product, these installation instructions must be observed. These instructions are not an operating manual for the end product.

These instructions will help you to minimize danger, repair costs and down times. They will also help you to maximize the reliability and lifespan of the end product.

	CAUTION The notices in these instructions must be followed! Following the guidelines during installation and connection procedures will help to minimize: • the risk of accident and injury, and • damage to the MC10 control unit or the end product.
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These installation instructions have been written with due care and attention. However, we cannot guarantee that the data, images and drawings are complete and correct nor do we accept any liability for the information contained therein, unless required by law.

- We reserve the right to make unannounced technical changes in the course of our continual product improvement process!

1.2 Conventions used in this manual

Notices which do not relate to safety are indicated in these instructions with a symbol:

- Triangular notice symbol

Explanations of warning notices

	DANGER DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
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	WARNING WARNING indicates a hazardous situation which, if not avoided, could result in serious injury or death.
---	--

	CAUTION CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
---	---

	NOTICE NOTICE is used to address practices which are not related to personal injury but may result in damage to the product or surroundings.
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2. Safety Instructions

2.1 Proper and Intended Usage

The MC10 control unit is intended for use

- as a control unit and power supply for the appropriate DewertOkin drive systems.

	 CAUTION
	The MC10 control unit should only be used for the applications described above. Any other form of usage is not permitted and can lead to accidents or destruction of the unit. Such non-approved applications will lead immediately to the expiration of all guarantee and warranty claims on the part of the end-product manufacturer against the manufacturer.

2.1.1 Improper usage

Be sure to follow the notices below concerning improper usage. You should include them in your product manual in order to inform the users of your end product.

	 WARNING
	The MC10 control unit should not be used: • in any environment where combustible or explosive gases or vapours (e.g., anaesthesiology) may be present, • in the proximity of open fires or other heat sources (such as furnaces, ovens or direct sunlight), • as a power source for toys or games, • in any application that will be cleaned with an automated washing system, • in a moist environment, or • outdoors.

	 CAUTION
	The MC10 control unit may not be operated by: • by small children, • by frail or infirm persons without supervision, or • in the proximity of small children.

	 CAUTION
	You should only use spare parts which have been manufactured or approved by DewertOkin. Only original or approved spare parts guarantee sufficient levels of safety.

Using the drive systems in medical applications

This DewertOkin product is in compliance with the safety requirements found in IEC 60601-1.

We strongly recommend that the end product (including all its components) which you are manufacturing for a medical application should also be in compliance with the safety requirements found in IEC 60601-1.

You should make sure that the mechanical movement of the motor in your end product poses no risk of injury. Conduct a risk analysis for the end product for this purpose. You should also include safety notices in the instructions for the end product and technical safeguards in your product to eliminate any risk.

2.2 Selection and qualification of personnel

This MC10 control unit should only be installed into the end product by someone who has completed training in electronic motor assembly or has equivalent qualifications.

You should only install the MC10 control unit when you are qualified to do so. Otherwise, a properly qualified person should be found for this task.

2.3 Notice on safety during operations

Basic safety rules must be followed in order to ensure that the end product can be continually operated in a safe manner. These rules must be observed while using the end product and while installing the MC10 control unit.

These rules and safety measures can be categorized as follows:

- Construction measures before the installation (refer to the "Ensuring operational reliability during installation" section in the chapter "Installation").
- Safety fundamentals during the installation of the MC10 control unit and during cable and wire routing (refer to the "Electrical connection" section in the "Installation" Chapter).
- Basic safety rules during operation (refer to the "Operating Notes" chapter).
- The creation of a manual for the end product which contains these and other safety rules.

2.3.1 Creating a user's manual

The manufacturer of the end product must create a manual for the users of that product. The safety notices in the end-product manual must be written based on the end product's risk assessment.

2.3.2 Electrical safety

	 WARNING Be careful; there is a risk of electrical shock! Be sure to unplug the power cord on the MC10 control unit before you begin assembly!
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The MC10 control unit should not be opened! You must properly dispose of malfunctioning or broken units.

2.4 Product labelling

2.4.1 Ratings plate (type label)

A ratings plate (or type label) on each MC10 control unit specifies the exact name and serial number of the drive. It also states the technical specifications valid for that particular control unit. The following illustration shows where the specifications are located on the ratings plate of the MC10 control unit.

- The ratings plate shown is an example; the specifications for MC10 control unit may differ from this illustration.

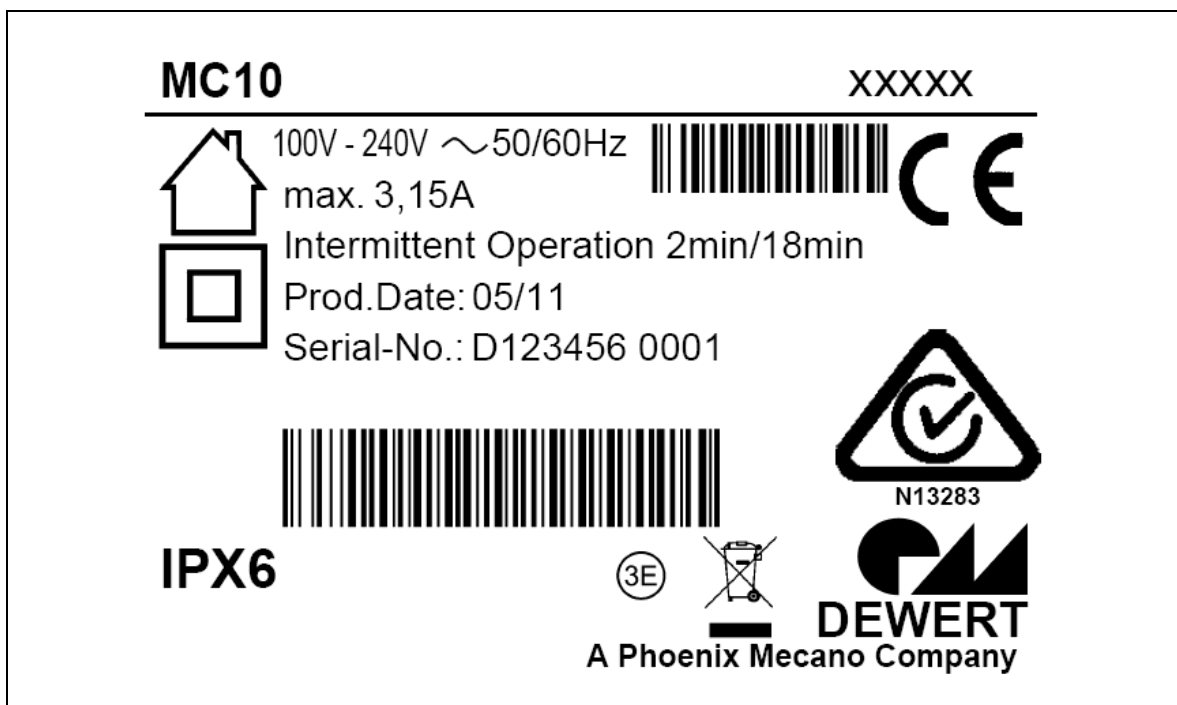


Figure 1 Ratings plate example for the MC10 control unit

MC10	Model name
xxxxx	Article number
100V - 240V ~ 50/60Hz	Input voltage and frequency
max. 3.15A	Rating of fuse
Intermittent Operation 2min/18min	Intermittent operations: 2 minutes / 18 minutes
Prod.date	Calendar week / year
Serial No.	Serial number of the MC10 control unit
IPX6	Protection degree

	Labelling in accordance with the directive IEC 60601-1:2006, 3rd edition.
	Use in dry rooms only!
	Protection class II
	Follow all special disposal instructions!

3. Possible Combinations

The MC10 control unit can be combined with one or more drives. The following basic combinations are possible:

- a MEGAMAT MLZ drive attached to the MC10 control unit and a handset,
- a MEGAMAT MLZ drive attached to the MC10 control unit, up to two additional single drives and a handset.

Systems can be customized by combining drives, control units, handset and batteries as needed.

DewertOkin has separate system instruction manuals containing additional information and instructions needed for these systems.

3.1 Layout of system connections

Refer to the sticker on the control unit for details about layout and positioning of the connections. The sticker is located above the sockets. It indicates the proper type of connections. The layout of the connection scheme is individual and depends on the system specifications. Figure 2 is only an example and shows you where the label is attached.

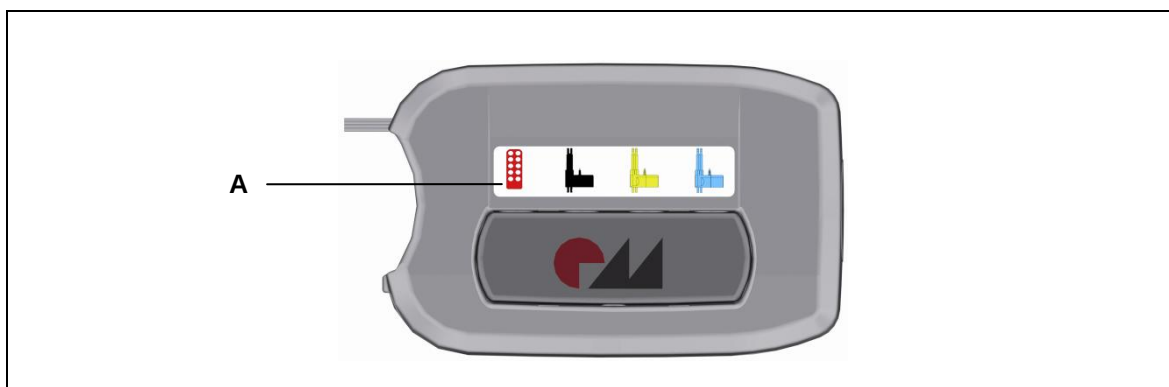


Figure 2 An illustration of where the connection layout sticker is positioned on the control unit

A Layout of connections



NOTICE

Only connect the components according to the specifications found on the sticker on the control unit. Any other arrangement of connections may damage the control unit.

4. Description

The MC10 control unit is a control unit and power supply for one or more DewertOkin drives. A pluggable power cord is used to connect the MC10 control unit to the mains power supply. The MC10 control unit has a non-referenced (unearthed) circuit which is separated from the supply voltage by means of doubled reinforced insulation.

- We reserve the right to make unannounced technical changes in the course of our continual product improvement process!

4.1 Components

The housing of the MC10 control unit has a connection for the power feed-in and connections for the drives and handset. The connection for the drive/handset is fitted with a mechanism to guard against accidental unplugging. The MC10 control unit can be plugged into a MEGAMAT MLZ drive.

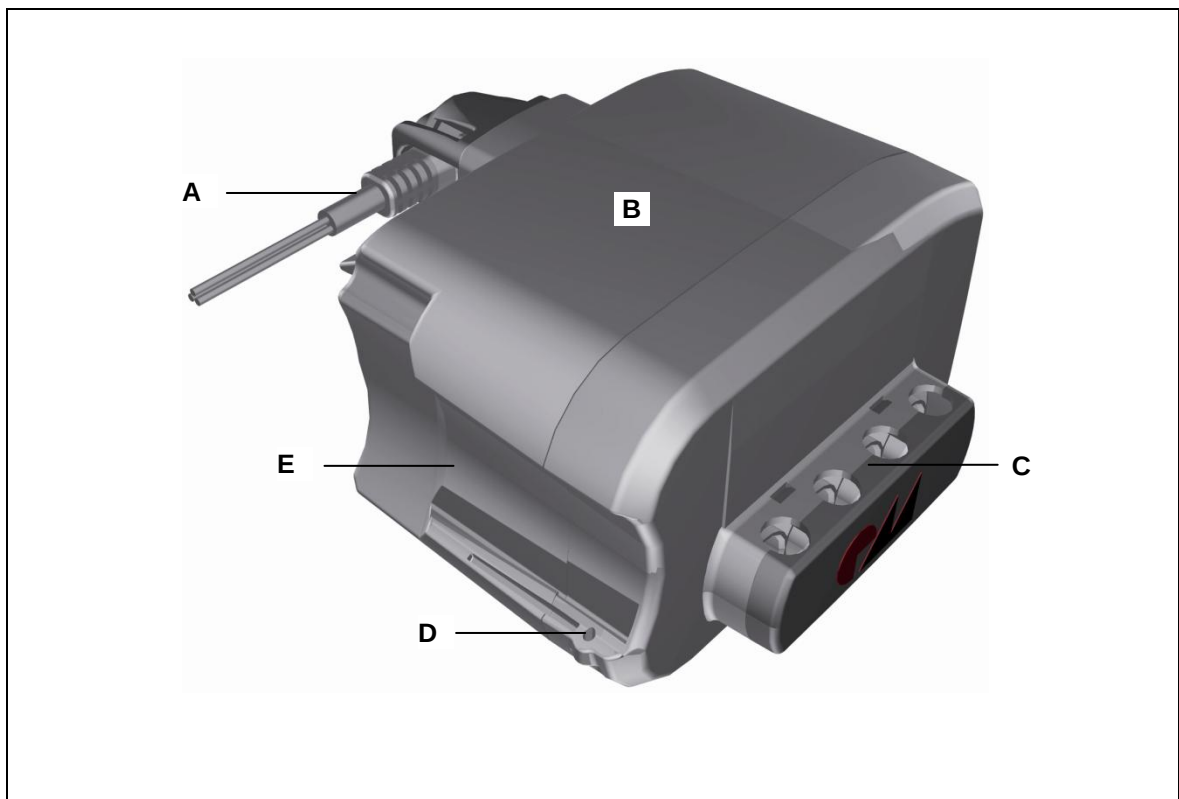


Figure 3 Components for the MC10 control unit

- | | |
|--|---|
| A Power supply via pluggable power cord | B MC10 control unit |
| C Connection sockets for drives and handset with mechanism to protect against pulling out | D Screw-on attachment to the MEGAMAT MLZ drive |
| E Section for sliding on the MEGAMAT MLZ drive | |

4.1.1 Mains power supply

	 WARNING
	Please follow these operating instructions carefully. You could be injured by fire or electrical shock if you do not follow these assembly instructions.

The appropriate power cord is included, depending on the regional version (USA, continental Europe, the UK or Australia).

	 WARNING
	Only use the proper power cable that is permitted in your country. Be sure to use the correct plug shape (refer to Figure 4).

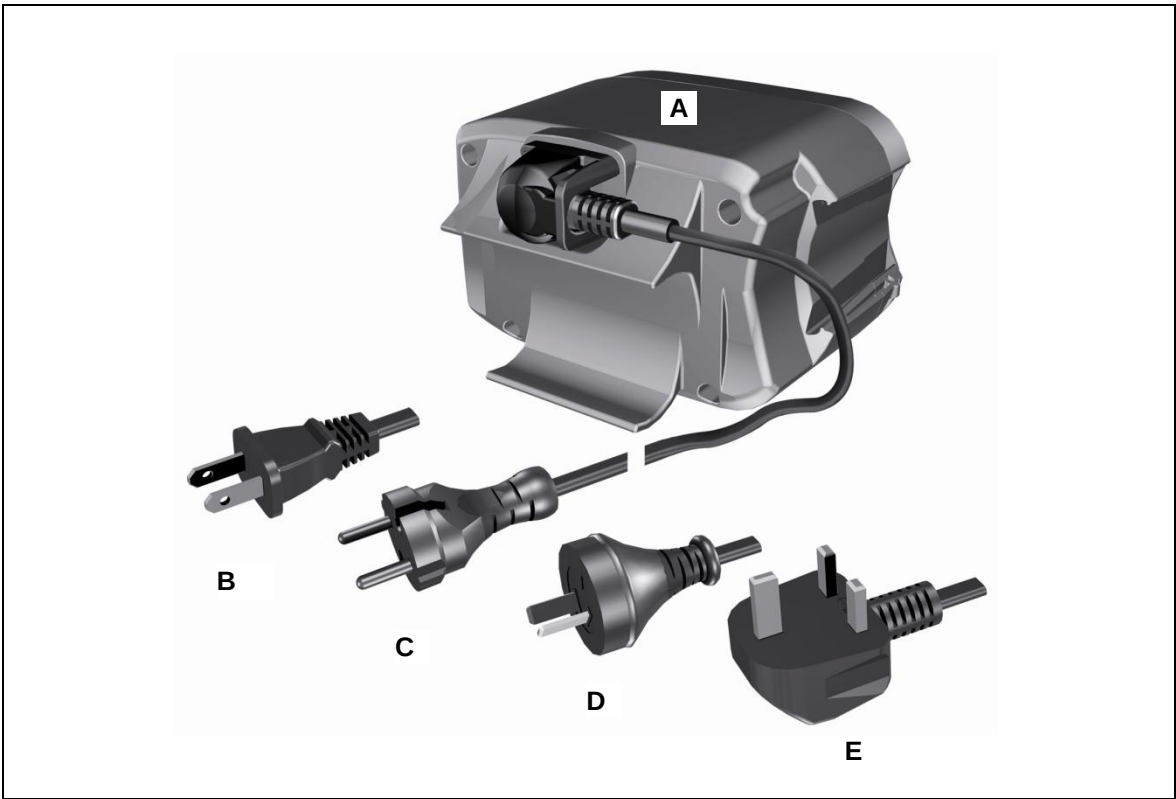


Figure 4 Power cord, regional variants

- | | |
|--|--|
| A MC10 control unit | B Power plug (USA version) |
| C Power plug (German version) | D Power plug (Australian version) |
| E Power plug (United Kingdom version) | |

5. Technical Specifications

Mains power supply	100 – 240V AC, 50/60Hz
Current consumption at nominal operations	Max. 1.2 A (depending on input voltage)
Fuse	T 3.15 A
Mode of operations ¹	Intermittent duty 2 min./18 min.
Protection class	II
Permitted current consumption of all additional drives ²	Max. 4 A at 2 min./18 min. intermittent operations
Protection degree	IP20, IP44, IPX4, IP54, IP66, IPX6
Colours	Refer to sales brochure
Dimensions and weight	
Length x width x height	144 mm x 151 mm x 92 mm
Higher with adapter	98 mm
Weight	approx. 550 g
Ambient conditions for operation, storage and transport	
Transport / storage temperature	From -20 °C to +50 °C From -4 °F to +122 °F
Operating temperature	From +10 °C to +40 °C From +50 °F to +104 °F
Relative humidity	From 30% to 75%
Air pressure	From 800 hPa to 1060 hPa
Altitude	< 2000 m

¹ Mode of operation: intermittent duty 2 min./18 min. This means that after the unit is operated with its rated load for up to two minutes it must then be paused for 18 minutes. The system can malfunction if this pause is not observed!

²) No more than two drives may be operated at rated load simultaneously!

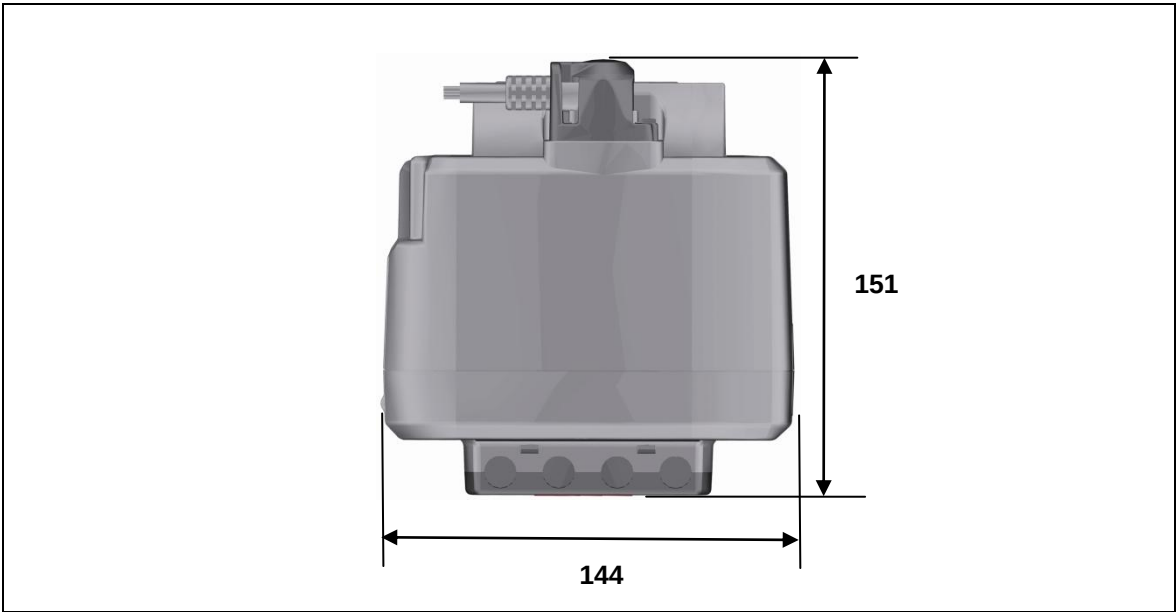


Figure 5 Dimensions of the MC10 control unit, top view (in mm)

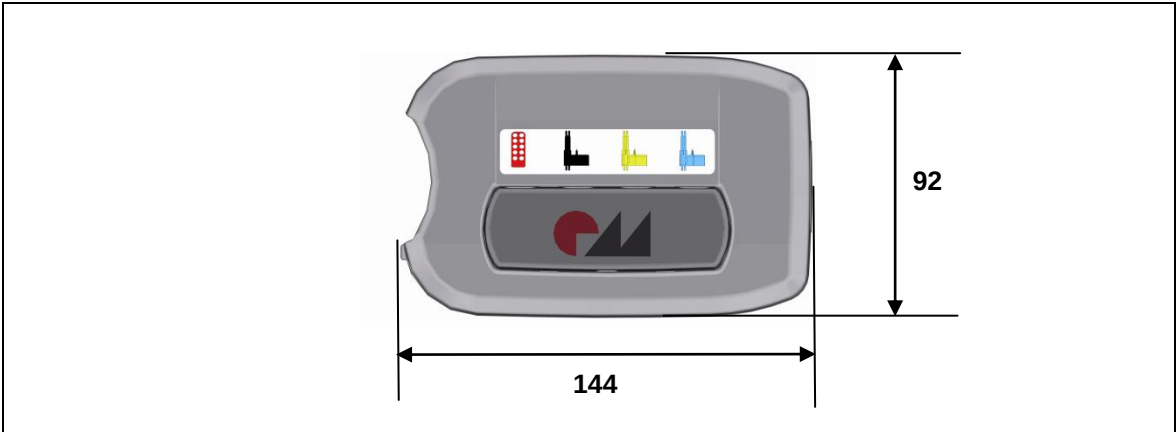


Figure 6 Dimensions of the MC10 control unit, front view (in mm)

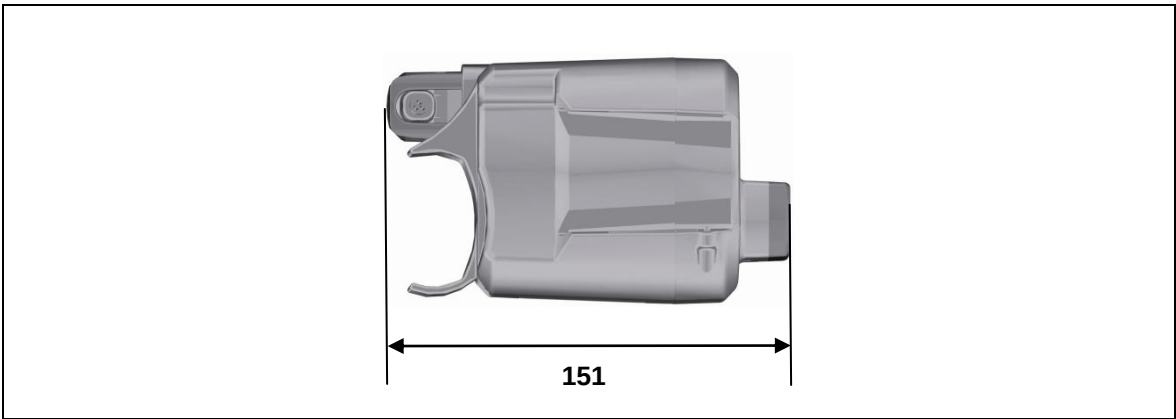


Figure 7 Dimensions of the MC10 control unit, side view (in mm)

6. Installation

6.1 Safety notices to observe during installation

Basic safety rules must be followed in order to ensure that the end product can be continually operated in a safe manner. These rules must be observed while using the end product and while installing the MC10 control unit.

6.1.1 Avoiding electrical faults

The power supply cord is designed to be connected to an outlet near the floor. Be sure to consider the length of the power cord when designing the dimensions for your application in order to minimize the associated risks.

6.1.2 Ensuring operational reliability during installation

The safety and reliability of the end product containing DewertOkin components can be ensured by using the proper construction methods described below.

Overheating

A thermal monitoring mechanism switches the MC10 control unit off if it overheats.

	 CAUTION The MC10 control unit is equipped with a thermal monitoring mechanism that triggers when the unit overheats. If the temperature control has triggered, remove the control unit from the power supply, allow it to rest for 20 to 30 minutes and try again. If the control unit still does not function, please contact your supplier or dealer.
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Installation length of the MEGAMAT MLZ drive

The installation length of the MEGAMAT MLZ drive should not be less than 266 mm (installation length of MEGAMAT MLZ drive with standard clevis). The drive or drive control unit could be mechanically damaged if the installation length is shorter than this.

Mechanical construction

A shield covering the sockets protects the connections from mechanical damage and accidental unplugging.

6.2 Installation procedure

Before installing the MC10 control unit, make sure that you are observing all of the safety notices found in the "Safety notices to observe during installation" section.

6.2.1 Mounting the MC10 control unit to the MEGAMAT MLZ drive

	NOTICE
The installation length of the MEGAMAT MLZ drive should not be less than 266 mm (installation length of MEGAMAT MLZ drive with standard clevis). The drive or drive control unit could be mechanically damaged if the installation length is shorter than this.	

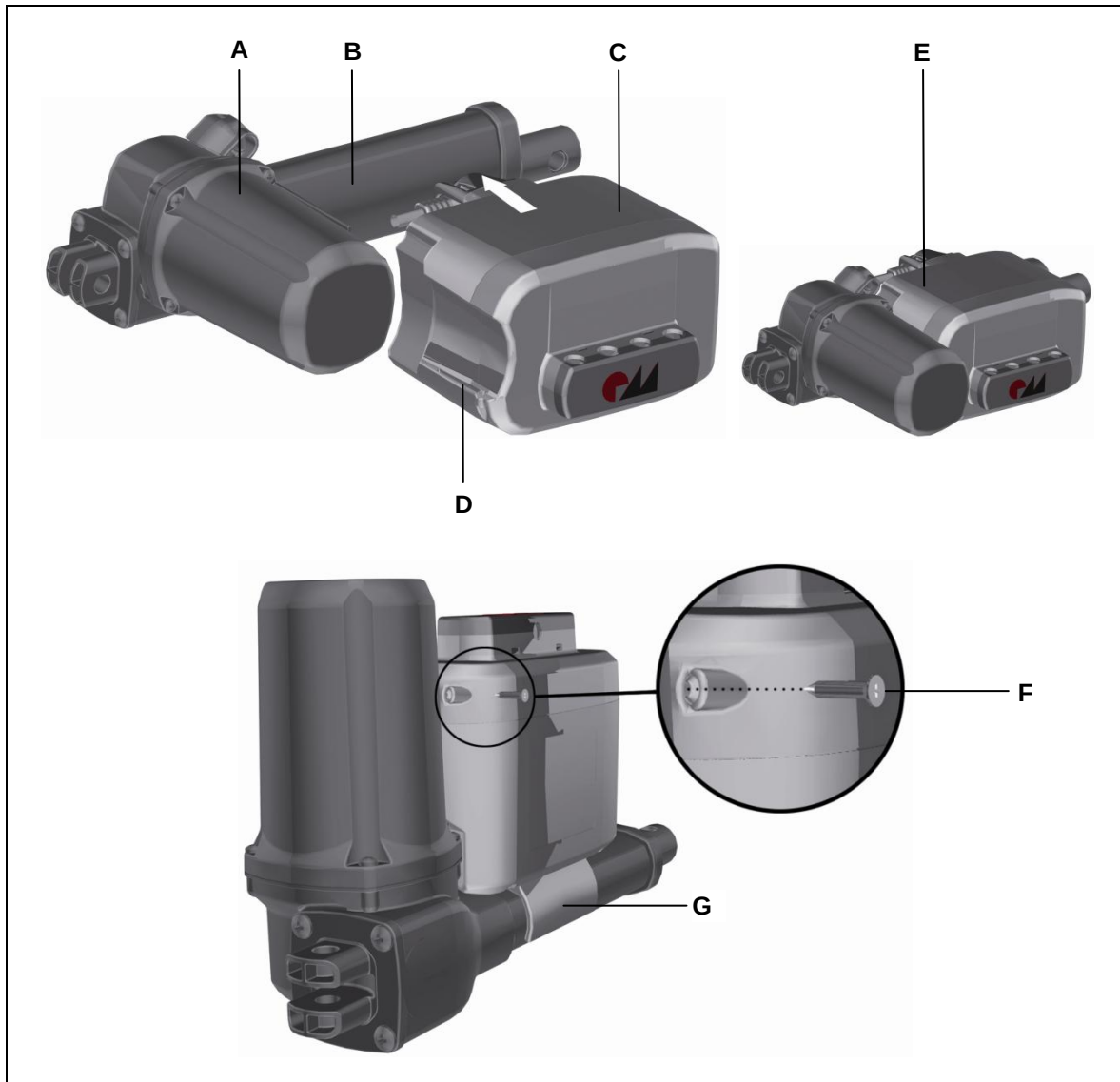


Figure 8 Mounting the MC10 control unit

- | | |
|--|--|
| A The MEGAMAT MLZ (sample illustration) | B Guidance profile |
| C MC10 control unit | D Guidance groove for the motor casing cover on the MEGAMAT MLZ drive |
| E MC10 control unit attached to the drive | F Fastening screw (3.5 mm x 13 mm) |
| G Support for guidance profile | |

The MC10 control unit is mounted by snapping it onto the MEGAMAT MLZ drive.

	 CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 1 Push the MEGAMAT MLZ drive along the guidance groove (D) until the guidance profile (B) snaps onto the support (G).
- 2 A screw can also be used to secure the MEGAMAT MLZ drive to the MC10 control unit. Tighten the screw (F), as shown in Figure 8. Use a fastening screw with the dimensions 3.5 mm x 13 mm (ISO 7049-ST).
- 3 The drive can then be connected to the proper socket on the MC10 control unit (refer to the "Electrical connection" section).

6.2.2 Electrical connection

	 CAUTION
Electrical components should be connected or disconnected only when the power supply cord is unplugged.	

	NOTICE
There is a delay after the supply voltage is applied before the device actually turns on. Wait at least 15 seconds before initial commissioning.	

Routing the electrical cables

When routing the cables, be sure that:

- the cables cannot get jammed,
- no mechanical load (such as pulling, pushing or bending) will be put on the cables, and
- the cables cannot be damaged in any way.

Fasten all cables (especially the connecting cables) to the end product using sufficient kink prevention methods. Be sure that the design of the end product prevents the connecting cables from coming into contact with the floor during transport.

Connecting the MEGAMAT MLZ drive to the MC10 control unit

The electrical connection from the MEGAMAT MLZ drive to the MC10 control unit is made by plugging the drive plug into the MC10 control unit.

Take off the shield cover (refer to the "Opening the shield cover" section) and plug the drive plug into the proper socket. Make sure that you use the proper connection position as specified in the connection layout illustration (refer to the "Layout of system connections" section).

Opening the shield cover

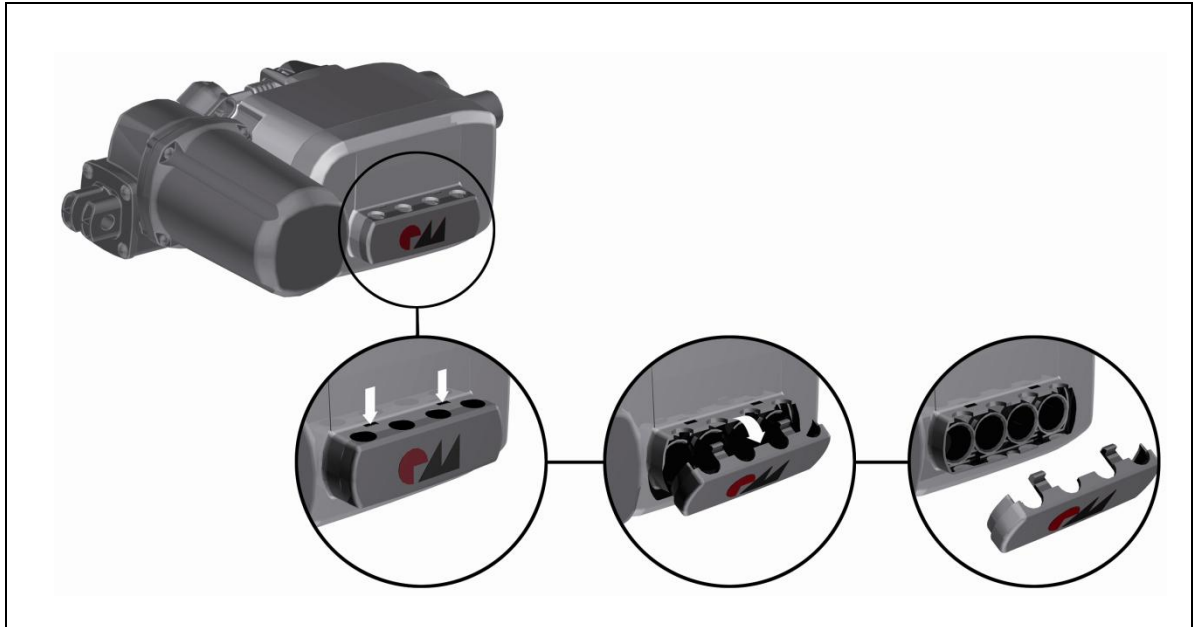


Figure 9 Opening the shield cover on the MC10 control unit

- 1 Pull out the mains plug from the outlet.

	 CAUTION
	You should only connect and disconnect the cables when they are completely disconnected from any live current!

- 2 Use a suitable tool to press both locking clips down in the notches as shown in Figure 9. At the same time, tilt the shield cover forward so that the clips come out of the notches.
- 3 Remove the shield cover.
- 4 You can now connect or disconnect a plug and socket. Be sure to use the proper socket (the assignments of plugs to sockets in shown in the connection layout diagram). (Figure 2 shows the connection positions.)

6.2.3 Connecting the pluggable power cord to the MC10 control unit

	WARNING
	Please follow these operating instructions carefully. You could be injured by fire or electrical shock if you do not follow these assembly instructions.

The appropriate power cord is included, depending on the regional version (USA, continental Europe, the UK or Australia).

	WARNING
	Only use the proper power cable that is permitted in your country. Be sure to use the correct plug shape (refer to Figure 4).

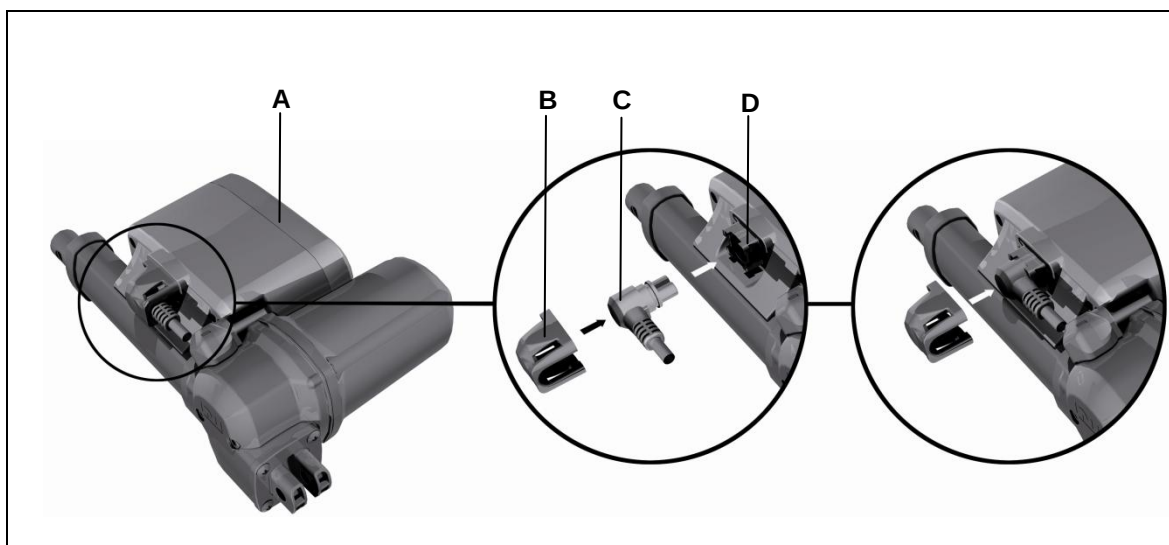


Figure 10 Connecting the pluggable power cord to the MC10 control unit

A MC10 control unit

B Locking cap

C Power plug

D Power socket on the MC10 control unit

The pluggable power cord should be attached to the power socket (D) located on the rear of the control unit.

- 1 Pull out the mains plug from the outlet.

	CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 2 Remove the cap (B) from the socket.
- 3 Plug the power plug from the power cord (C) into the socket.
- 4 Push the cap (B) onto the inserted plug until you hear the cap snap on.

Follow the notice below when plugging the power plug into the power outlet:

	NOTICE
There is a delay after the supply voltage is applied before the device actually turns on. Wait at least 15 seconds before initial commissioning.	

6.2.4 Disconnecting the MC10 control unit

- 1 Pull out the mains plug from the outlet.

	CAUTION
You should only connect and disconnect the cables when they are completely disconnected from any live current!	

- 2 Open and remove the shield cover (refer to Figure 9).
- 3 Disconnect all connecting cables from the MC10 control unit.

6.2.5 Connecting the optional battery

An external rechargeable battery can be connected to the optional battery socket. The sticker above the sockets shows the position of the battery socket (refer to the "Layout of system connections" section in the "Combination Possibilities" Chapter).

- 1 Pull out the mains plug from the outlet.
- 2 Use a suitable tool to press both locking clips down into the notches as shown in Figure 9. At the same time, tilt the shield cover forward so that the clips come out of the notches.
- 3 Remove the shield cover.
- 4 Insert the battery plug into the battery socket on the MC10 control unit. Be sure to use the proper socket (the assignments of plugs to sockets in shown in the connection layout diagram). Figure 2 in the "Combination Possibilities" Chapter shows the connection positions.
- 5 Push the shield cover on until the locking clips snap into the notches.

6.2.6 Optional: mounting the control unit with the adapter

Mounting the adapter on the control unit

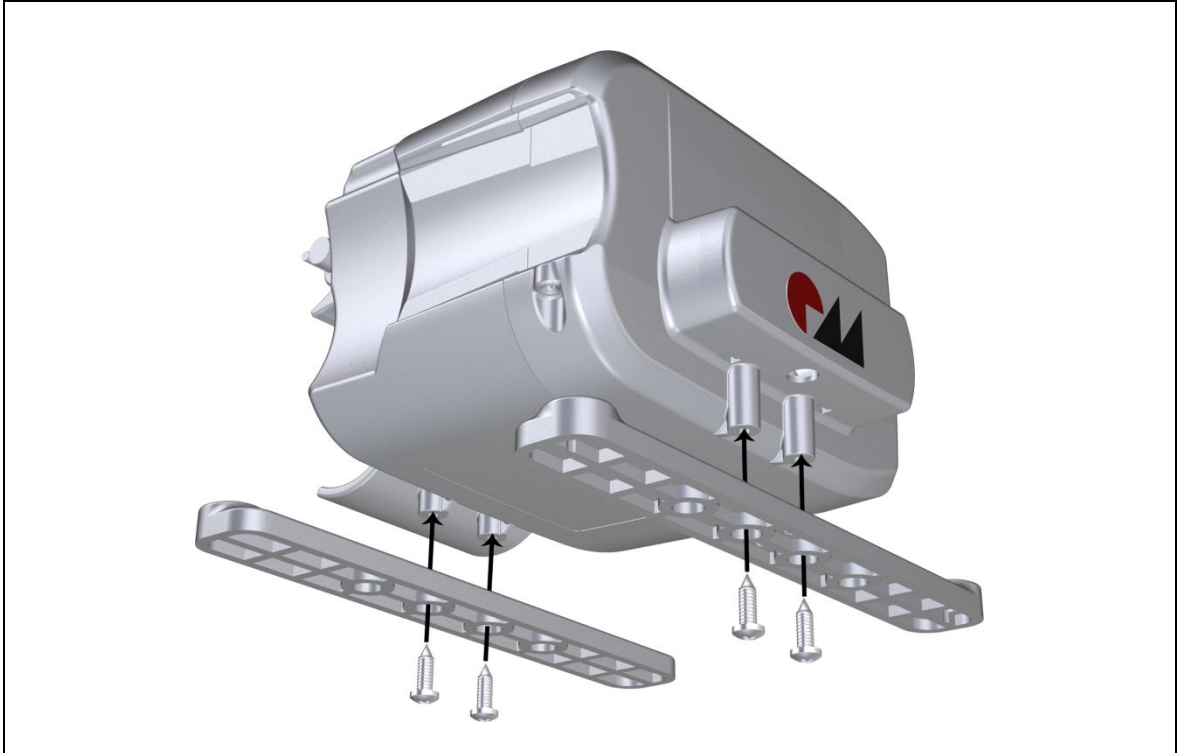


Figure 11 Mounting the adapter on the MC10 control unit

- 1 Use four screws (according to DIN 7981, with 3.9 mm diameter and 13 mm length) to attach the optional adapter to the control unit, as shown in Figure 11.

Mounting to the end product

The MC10 control unit is screwed onto the end product by using four screws for the four mounting points (e.g. DIN 7981 screws with 4.8 mm diameter and suitable length of 6 mm plus screw-in depth).

	NOTICE
	Observe the following while mounting to the end product: • The MC 10 control unit should be mounted so that it lies against its supporting material. • No mechanical forces or torsion should be exerted on it by the end product. Such forces could lead to damage (such as cracks).

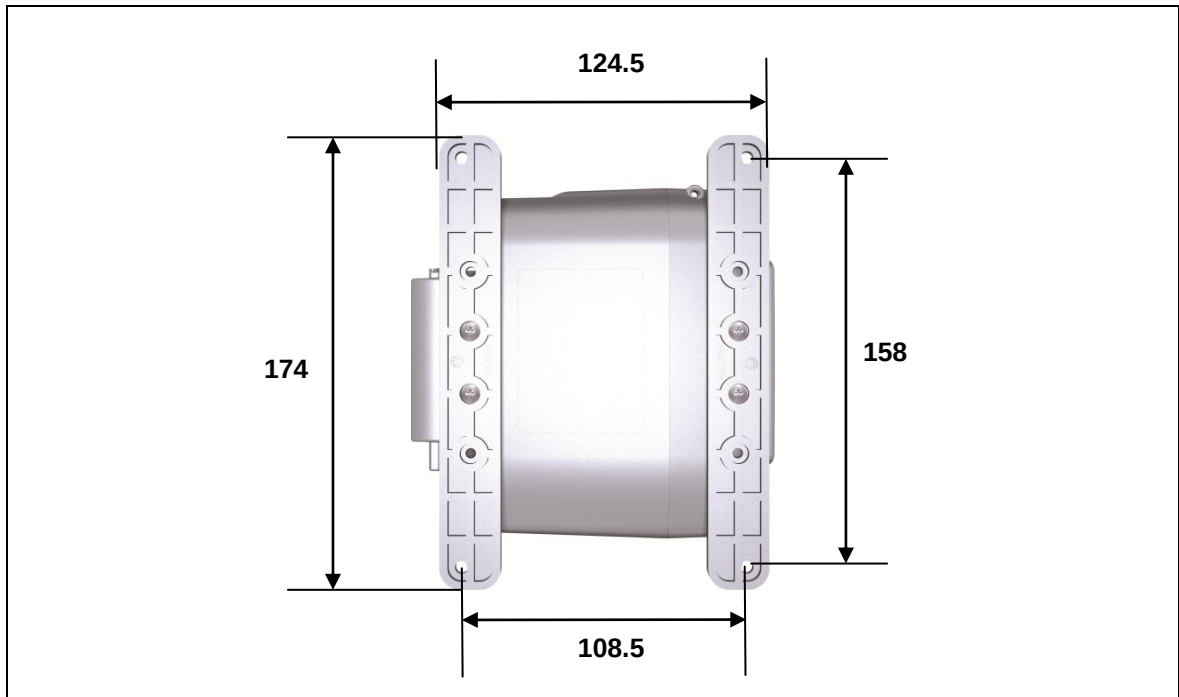


Figure 12 Mounting dimensions of the adapter. View from below (in mm)

- 1 The control unit is screwed onto the end product by using four screws for the four mounting points (e.g. DIN 7981 screws with 4.8 mm diameter and suitable length of 6 mm plus screw-in depth) as shown in Figure 13. The mounting dimensions are shown in Figure 12.



Figure 13 Attaching the MC10 control unit to the end product

7. Operating Notes

The factual information contained within may be used when you are creating the end-product manual. The installation instructions do not contain all information required for the safe operation of the end product. They only describe the assembly and operation of the MC10 control unit as a partially assembled piece of machinery.

	 CAUTION When creating the operating instructions, remember that the installation instructions are intended for qualified specialists and are not for typical users of the end product.
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7.1 General notices

- ▶ Only drives from DewertOkin should be connected to the MC10 control unit since they have already been verified to work together.

Delayed start-up

Follow the notice below when plugging the power plug into the power outlet:

	NOTICE There is a delay after the supply voltage is applied before the device actually turns on. Wait at least 15 seconds before initial commissioning.
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Power-on time / intermittent operations

The MC10 control unit has been designed for intermittent operations. Intermittent operation is an operational mode where the drive must pause after a specified maximum period of operation (power-on time). This protects the drive from overheating. Extreme overheating can cause a malfunction.

- ▶ The ratings plate specifies the maximum power-on time and the required pause intervals.

Avoiding toggle operations

You should avoid switching from one direction of travel to the opposite direction without first stopping the motor. – Make sure that you pause between motions! A pause (motor stop time) can be activated using the operating element or handset.

	NOTICE You should always avoid a quick change ("toggle") of directions.
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Avoiding electrical risks

	 WARNING
	Be sure that all live (current-carrying) parts of the drive system and power supply cannot be touched. In particular, be sure that unused power and control unit connections are covered adequately.

Power cord

	 WARNING
	Please follow these operating instructions carefully. You could be injured by fire or electrical shock if you do not follow these assembly instructions.

	 WARNING
	Only use the proper power cable that is permitted in your country. Be sure to use the correct plug shape (refer to Figure 4).

Reducing the risk of overheating with the temperature monitoring mechanism

	 CAUTION
	The MC10 control unit is equipped with a thermal monitoring mechanism that triggers when the unit overheats. If the temperature control has triggered, remove the control unit from the power supply, allow it to rest for 20 to 30 minutes and try again. If the control unit still does not function, please contact your supplier / dealer.

Avoiding overheating

	NOTICE
	No more than two drives may be operated at rated load simultaneously!

Emergency shut off of a connected drive or control unit

	 CAUTION In an emergency, disconnect the MC10 control unit's power plug in order to shut off the connected drive. The power plug must always be accessible during operations so that it is possible to shut down the drive or control unit at any time. If the optional battery is connected, disconnect the battery plug from the socket on the MC10 control unit.
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Avoiding cable damage

Be sure that your operating instructions inform the user about the possible cable risks.

	 CAUTION The cables (particularly the connecting cable) should not be run over. In order to prevent injuries or damage to the drive and MC10 control unit, no mechanical strain should be placed on the cables.
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7.2 Notice for operating with optional configuration

7.2.1 Optional: rechargeable battery

If you have purchased the MC10 with the external rechargeable battery, then you should note the following:

- Load the battery for at least 24 hours before first use.
 - Depending on the version, the battery is loaded in one of several methods:
 - Use a suitable DewertOkin charger.
 - The battery charge status is displayed on the handset when the handset is equipped with a battery display:
 - The battery is being loaded when the battery control light is blinking.
 - The battery is ready when the battery control light is continuously illuminated.
 - Optional: A warning tone is issued when the battery charge is low. Shortly after the tone, the battery is switched off so that it cannot be damaged by a drain discharge.
 - After you have used the battery-operated reset function, be sure to charge the battery until the ready signal is displayed (the battery control light, when present, stays illuminated). If the MC10 control unit is equipped with integrated load circuitry, then the battery will be automatically re-charged.
- Follow the additional information found in the rechargeable battery information sheet (ID No. 45564).

8. Troubleshooting

This chapter describes troubleshooting methods for fixing problems. If you experience an error that is not listed in this table, please contact your supplier.

	 CAUTION
	Only qualified specialists who have received electrician training should carry out troubleshooting and repairs.

Problem	Possible cause	Solution
The drive or control unit is not functioning.	There is no mains supply voltage.	Connect the mains power.
	The drive or control unit is defective.	Please contact your supplier or sales agent.
The drive is suddenly not capable of movement.	The overheating protection or system protection has been triggered.	Remove the overload (change or remove the load). Allow the system to rest for 20 to 30 minutes with the mains power unplugged. If this does not resolve the problem, contact your supplier or distributor.
	The unit's fuse may have been triggered.	Please contact your supplier or sales agent.
	There is no mains supply voltage.	Connect the mains power.
	A lead-in connection has been interrupted (mains power, auxiliary drive or handset).	Check the cables and reinsert them, if required.

9. Maintenance

- You should only use spare parts which have been manufactured or approved by DewertOkin. Only original or approved spare parts guarantee sufficient levels of safety.

9.1 Maintenance

Type of check	Explanation	Time interval
Check the function and safety of the electrical system.	A qualified electrician should carry out this inspection. (Refer to the "Electrical connection" section in the "Installation" Chapter.)	Periodic inspections can be carried out at intervals based on the risk assessment which you conduct for your end product.
Look over the housing periodically for any signs of damage.	Check the housing for breaks or cracks.	At least every six months.
Look over the plug-in connections and electrical access points for signs of damage.	Check that all electrical cables and connections are firmly seated and correctly positioned.	At least every six months.
Look over the cables for any signs of damage.	Check the connecting cables for pinching or shearing. Also check the strain relief and kink protection mechanisms, in particular after any mechanical load.	At least every six months.
Check periodically to see if the rechargeable battery is ready and operational. (Battery is optional)	If you can no longer move the drive in both directions with a fully charged battery, then you should replace the battery.	At least every four weeks.

9.2 Cleaning and care

The MC10 control unit was designed so that it would be easy to clean. The smooth surfaces can be conveniently cleaned.

	NOTICE
Never clean the MC10 control unit in an automated washing system or with a high-pressure cleaner. Do not allow fluids to penetrate the lighting. Damage to the system could result. Do not use a cleanser that contains benzene, alcohol or similar solvents.	

- 1 Be sure to unplug the power cord on the MC10 control unit before you begin cleaning it!

	 CAUTION
For the optional rechargeable battery: Disconnect the battery plug from the socket on the MC10 control unit.	

- 2 Clean the MC10 control unit using a moist cloth.
- 3 Be sure that you do not damage the connecting cables during the cleaning.

10. Disposal

The MC10 control unit consists of electronic components, cables and metal and plastic parts. You should observe all corresponding national and regional environmental regulations when disposing of the MC10 control unit.

The disposal of the end product is regulated in Germany by Elektro-G, internationally by the EU Directive 2002/95/EC (RoHS, from 1 Jul. 2006) and Directive 2011/65/EU (RoHS, from 3 Jan. 2013), or by any applicable national laws and regulations. (The end product is not regulated by the EU Directive 2002/96/EC (WEEE) and its amendment EU Directive 2003/108/EC.)



The MC10 control unit should not be disposed of with normal household waste!



The disposal of the rechargeable battery is regulated in the EU by the Battery Directive 2006/66/EC, in Germany by the BattG battery law of 25.6.2009, and internationally by any applicable national laws and regulations.



This battery should not be disposed of with normal household waste!



EU Declaration of Conformity

In compliance with Appendix IV of the EU EMC Directive 2004/108/EC

In compliance with Appendix III of the EU Low Voltage Directive 2006/95/EC

In compliance with Appendix VI of the EU RoHS Directive 2011/65/EU

The manufacturer:

DewertOkin GmbH

Weststraße 1

32278 Kirchlingern

Germany

declares that the following product

MC10 control unit

meets the requirements of the following EU directives:

Electromagnetic Compatibility Directive 2004/108/EC

Low Voltage Directive 2006/95/EC

RoHS Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Applied standards:

- EN 60335-1:2012
- EN 55014-1/A1:2009
- EN 55014-2/A2:2008
- EN 61000-3-2/A2:2009
- EN 61000-3-3:2008
- EN 62233:2008

This declaration of conformity is no longer valid if constructional changes are made which significantly change the control unit (i.e., which influence the technical specifications found in the instructions or the intended use)!

Kirchlingern, Germany on 15 December, 2012



Sascha Koltzenburg
Head of R & D

Additional information

MC10 drive control unit

In accordance with EN 60601-1:1990 +A1:1993 +A2:1995, "Electrical medicinal devices", the following standards are used:

EN60601-1, Main section 2	Ambient conditions Electrical shock protection
EN60601-1, Section 21	Mechanical attachment
EN60601-1, Main section 7	Overheating protection
EN60601-1, Main section 9	Improper operations and malfunctions
EN60601-1, Main section 10	Structural requirements
EN60601-1, Section 56.8	Power supply indicator is, however, not present

In accordance with EN1970:2000, "Beds for disabled persons", the following standards are used:

EN1970, Section 4 partially	Unintentional movement: Prevented by means of a locking mechanism (such as a control box) or IPROXX® The back section can be lowered by means of an optional battery
EN1970, Section 5.5.8	Dimensions of the control unit (IPROXX®)
EN1970, Section 5.6	Operational forces for the electrical functions (IPROXX®)
EN1970, Section 5.7	Functional speeds (for adjusting the head and foot sections)
EN1970, Section 5.11	Electrical requirements of protection degree: only for IPX4
EN1970, Section 5.12	Electromagnetic compatibility

In accordance with EN60601-2-38:1996 +A1:2000, "Electrically operated hospital beds", the following standards are used:

EN60601-2-38, Section 5.2	The classification of application parts
EN60601-2-38, Section 5.3	System protection category, only for $\geq$ IPX4
EN60601-2-38, Section 22.2.102	Only with locking device: Control box, Supervisor, or IPROXX [®] SE
EN60601-2-38, Section 22.4.101	Control unit with button
EN60601-2-38, Section 36	Electromagnetic compatibility
EN60601-2-38, Section 52.4	Unintentional movement (locking device)
EN60601-2-38, Section 52.5	First fault (electrical): Prevented by means of a locking mechanism or IPROXX [®]
EN60601-2-38, Section 52.5.9	Component outages: Prevented by means of a locking device
EN60601-2-38, Section 52.5.101	Outages of electrical components
EN60601-2-38, Section 52.5.102	Inclination of the back section and the Trendelenburg during a power outage: Usage of an optional rechargeable battery
EN60601-2-38, Section 56.8	Lighting (not required)
EN60601-2-38, Section 57.3a	Power cord (for example, EPR or similar)
EN60601-2-38, Section 57.3.101	Mains plug

The following standards have been used according to IEC 60601-1:2006, third edition, for medical electrical devices **3E** (refer to the ratings plate for label):

EN60601-1, Section 8	Protection against electrical danger
EN60601-1, Section 11	Protection against overheating and other risks
EN60601-1, Section 13	Dangerous situations and error conditions
EN60601-1, Section 15	Construction
EN60601-1, Section 16.6	Leakage current

In accordance with IEC 60601-2-52:2009, "Particular requirements for the safety and essential performance of medical beds", the following standards have been used **3E** (refer to the ratings plate for label):

IEC60601-2-52, Section 201.6.2	Protection against electrical shock: Protection class II
IEC60601-2-52, Section 201.6.3	Control panel symbols (depending on model, customer requirements)
IEC60601-2-52, Section 201.8.11.3.2	Power supply lead: only ≥ 2.5 m length Power supply lead: for example, EPR or similar
IEC60601-2-52, Section 201.9.2.2.5	Continuous operations: Control unit only with button
IEC60601-2-52, Section 201.9.2.3.1	Unintentional movement: Prevented by means of a locking mechanism (such as Control box, Supervisor, IPROXX [®] SE, IPROXX [®] , or Meditouch)
IEC60601-2-52, Section 201.11.1.1	Temperatures
IEC60601-2-52, Section 201.11.6.5.101	Protection against water ingress: only for $\geq$ IPX4
IEC60601-2-52, Section 201.11.8	Power outage: for example, battery usage, depending on version (customer requirement)
IEC60601-2-52, Section 201.13.1.4	Special mechanical hazards: Prevented by means of a locking mechanism (such as Control box, Supervisor, IPROXX [®] SE, IPROXX [®] , or Meditouch)
IEC60601-2-52, Section 201.15.3.4.1	Mechanical attachment – handset
IEC60601-2-52, Section 201.15.4.4	Displays: Ready indicator is not required
IEC60601-2-52, Section 201.17	Electromagnetic compatibility
IEC60601-2-52, Section BB.3.3.3	Dimensions: vary according to the model (customer requirement)
IEC60601-2-52, Section BB.3.4.1	Operating forces

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